



Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

BRIEFER ARTICLES.

NOTES OF TRAVEL. VII.

A TROPICAL FOREST IN CERAM.

THE steamer Japara of the Netherlands India Packet Boat Company had a cargo of American pipe for a new oil well which was being sunk at Boela on the northeast coast of Ceram. To unload this pipe, the steamer anchored about noon on January 18 in the open roadstead, a half mile off shore. With our glasses Mr. Lathrop and I studied for some time one of those fascinating pictures of green and brown foliage which are the charm of steamboat travel in this tropical archipelago. We made up our minds that the low flat country and the hills behind it were covered with as rich a tropical forest as we had ever seen, but neither of us was prepared to find so many novel sights and interesting things as our short stay on land revealed.

Boela is a tiny clearing on the ocean edge of the forest, and not only has no harbor but its roadstead shoals so gradually that at low tide even a ship's boat grounds an eighth of a mile from the beach. So our party, the owners of the oil concession, the two travelers, and several native men and women, were forced to wade that distance before they reached the shore. The water was warm and our slight discomfort was quickly forgotten in the beauty or the oddity of countless things that attracted our attention.

As a first surprise, the beach was covered with thousands of moving shells of all sizes and shapes. These shells moved about in the most bewildering fashion. The rotting logs and even the mangrove bushes on the shore were literally alive with them. On examination each one was found to be the home of a hermit crab. Shells even smaller than the head of a shirt-stud were inhabited, and it was with difficulty that we found any uninhabited specimens. In our stay ashore we did not see a single hermit crab which had left its shell.

To add to this bewildering impression of moving strand shells, scores of small ash-colored fish were jumping about in the liveliest manner on the sand, often many yards from the water. These fish were

so quick in their movements that it was many minutes before our boy succeeded in capturing one with his hands. Although I did not observe any of these animals actually perched in the branches of the mangrove, I do not doubt the statement that they often climb low bushes near the strand, using their short ventral fins for feet.

Boela, the possible future oil city of the Orient, was decidedly in embryo. A few huts, made of the midribs of the sago palm and thatched with the matted leaflets of the same plant, were clustered about the landing shed and surrounded by young plantings of manihot, bananas, and a few papaya trees. At the end of the little village was a more or less comfortable bungalow in which lived an American mechanic from Pittsburg who had charge of the oil drilling machinery. Three of the most curious dogs I have ever seen greeted us as we walked up the path to the bungalow. They were crosses between the hairless Mexican dog and the "kampong" or native cur. These dogs were quite hairless except the tip of the tail, which was furnished with a brush of bright reddish-yellow hair, and the top of the head, which bristled with a stiff mop of the same color. The only cat of the place was one of the short-tailed breed which is common in this region.

As we strolled into the forest along a newly-made corduroy road, gorgeous butterflies flitted quickly or soared lazily across our path in such numbers that we were reminded of some of Alfred Russell Wallace's descriptions of his best collecting experiences in Malacca. Only twice before had we seen such quantities of these tropical insects, once on a small island in the gulf of Siam, and the last time on one of the pathways near Petropolis, Brazil. The newly fallen trees were swarming with insects and covered with fungi, and the log road was bright with red and yellow mushrooms of many different species. Every time we halted to examine a rotten stump or scratch away a few fallen leaves, swarms of black mosquitoes attacked us, and worried us with the suspicion that they were injecting malarial plasmodia into our blood.

The new oil well, which was soon reached, was surrounded by little pools of the dark brown liquid, and many tall forest trees about were killed by the crude oil which had flowed from the well before it was closed. The bubbling oil and gas was sputtering and hissing under the cap which had been screwed down to keep it in. Although inhabitants of Amboina who were interested in these wells expressed great hope of their success, as yet no large quantities of oil had been

discovered. The roads which were being cut into the interior were expected to open up and determine the size of this new oil field. Near one of the oil wells stood giant forest trees, with bases buttressed by thin irregular plates which reached to a height of ten or twelve feet from the ground. On one of these trees, twisting about its gray trunk, was an epiphytic fern with dimorphic leaves, the basal ones like saucers closely appressed to the thick fleshy rootstock which they protected from the bright sunlight and its drying action.

On the same tree, while examining this fern, we disturbed a number of large gray ants which had built a paper-like nest on one of the broad flat buttresses. Like a company of veterans they rushed out of the nest and ranged themselves at regular distances from each other about their home. Every ant stood upright, curled its abdomen upward between its hind legs as if ready to sting, and with waving antennae awaited the enemy. On the parchment-like walls of the nest these warriors, as they hurried out, beat a sharp tattoo which was much louder but similar to that sounded by the termite warriors on the thin wooden walls of their galleries.

The newly made roadways through the forest were strewn with fruits which had fallen from the tops of the tall trees. Some of these were of the brightest orange and others a clear lemon-yellow, others still were purple and brilliant green. None, however, were edible, though many were most attractive looking.

In the tree-tops overhead, bright green parrots chattered, and a small cicada with a shrill but not unpleasant note kept up an incessant racket. Once a black parrot with red head flew low through the trees, looking like a flash of crimson light. Most of the birds, however, were in this season in the tops of the highest trees.

As in all tropical forests I have ever visited, the flowers in Boela were scarce. One bright crimson representative of the lily family, with a spike as large as a pineapple, was the only showy species observed. The botanical fancy is attracted in these forests by the curious creepers, which fling their supple stems about the tall forest trees and spread out their dark green tops above those of their supporting neighbors, until the latter are robbed of sunlight and slowly die. There are curious masses of stilt-like roots from which rise tall slender trunks; the pendant barbed tips of the rattan palm catch and hold you; delicate masses of green filmy ferns form soft pads on the fallen trunks; dusky chocolate-brown masses of the myxomycete (*Stemonitis*)

color your fingers as you touch them ; ugly looking incipient Polyporei exude oily looking drops of brown fluid ; and the rotting bark contains a host of microscopic fungi. Epiphyllous algae and lichens are always abundant in these dark forests and are often mimicked by insects.

However little one may be interested in the insects of temperate regions, the constant buzzing of flies and wasps, and the fluttering of gorgeous butterflies in this virgin forest soon attract one, and leave a lasting impression of the activity of the animal world as compared with the world of plants. The ants alone, in their host of forms and curious habits, are sufficient to distract the most obstinate collector, and rob him of many hours he would have spent in adding new numbers to his herbarium. They are the most intelligent beings of the forest, and the solitary traveler finds a sort of intellectual companionship in watching their movements. The termites of the tropics are second only to the tree ants in interest. At Boela only the tree-inhabiting forms were found, and none of those curious kinds were seen which cultivate fungi in their nests. The dead stumps and trees were everywhere alive with them, and the decaying trees were rapidly removed by immense colonies of these wood-eaters. The virgin forests of the tropics would be well nigh impassible to collectors if the fallen branches and logs were not quickly riddled with the galleries of the white ants. They are above ground what the earthworm is below it. They reduce all dead wood to half-digested fragments.

This portion of Ceram is very sparsely settled, so sparsely, in fact, that during the whole time we spent at Boela we saw only two or three native Alfurians, who came off to the steamer in their small dug-out canoes to sell their large but coarse-grained bananas. They are a darker, more uncleanly race than the Javanese or Amboinese, and show traces of Papuan origin. Imported coolies from Java and Amboina are depended upon to work the drills at the oil wells.

But all idea of time was lost as we wandered through this forest, until the rapidly fading light (to say nothing of the rapidly devouring mosquitoes) gave warning that a hurried retreat must be made from this malaria-haunted shore. In the morning we saw Boela again, and it looked even more beautiful gilded by the rising sun than in the evening light. — DAVID G. FAIRCHILD, *Department of Agriculture, Washington, D. C.*